Scientific American.

THE ADVOCATE OF INDUSTRY AND JOURNAL OF SCIENTIFIC, MECHANICAL AND OTHER IMPROVEMENTS.

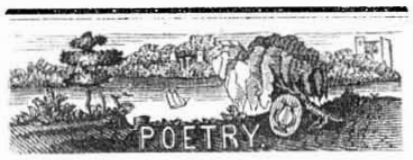
VOL. 2. NEW YORK, JANUARY 16, 1847. NO. 17.

THE NEW YORK
SCIENTIFIC AMERICAN:
PUBLISHED WEEKLY.
At 128 *Fulton Street*, (*Sun Building*,)
NEW YORK.
BY MUNN & COMPANY.

RUFUS PORTER, EDITOR.

TERMS.—$2 a year—$1 in advance, and the remainder in 6 months.

☞ *See Advertisement on last page.*



FABLE.

The wise men of Egypt were secret as dummies,
And, even when they most condescended to teach,
They packed up their meaning, as they did their mummies,
In so many wrappers, 'twas out of one's reach.

They were also, good people, much given to Kings—
Fond of craft and of crocodiles, monkeys and mystery;
But blue-bottle flies were their best-loved things—
As will partly appear in this very short history,

A Scythian philosopher (nephew, they say,
To that other great traveller, young Anacharis)
Stepped into a temple at Memphis one day,
To have a short peep at their mystical farces.

He saw a brisk blue-bottle Fly on the altar,
Made much of, and worshipped as something divine;
While a large, handsome Bullock, led there in a halter,
Before it lay stabbed, at the foot of the shrine.

Surprised at such doings, he whispered his teacher—
"If 'tisn't impertinent, may I ask why
Should a Bullock, that useful and powerful creature,
Be thus offered up to a blue-bottle Fly?"

"No wonder,"—said t'other—"you stare at the sight,
But *we* as a symbol of Monarchy view it—
That Fly on the shrine is Legitimate Right,
And that Bullock, the People, that's sacrificed to it."

MEN AND HORSES.

Says Tom to Dick the other day,
I have been thinking that our bossses
Would use use us better every way,
If we were horses,

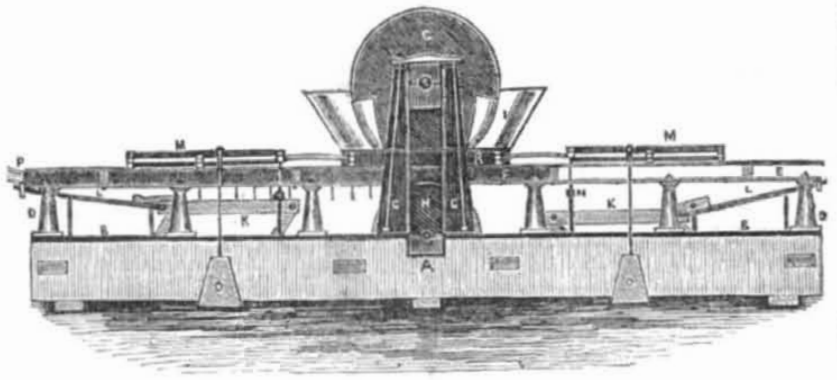
Should by neglect a horse be lost,
We fools can tell (it needs no scholars)
That to replace them it may cost
A hundred dollars

But you and I may starve, and slave,
What matters tho' we're men and brothers?
If we should die they will not have
To purchase others.

Misapprehension Prevented.

A clergyman addressed his people a few Sabbaths since as follows:—"I said to you, my dear hearers, on the day when we last lifted a collection, that philanthropy was the love of our species. From the amount obtained at that time, I fear you understood me to say *specie*. I trust your contributions of to-day will serve to show that you are no longer laboring under that mistake."

DRY CLAY BRICK PRESS.



EXPLANATION.—In the above wood cut, A represents the sills upon which the machine rests; B, cast iron bed plates resting upon and bolted to the sills; C C, posts which sustain the press wheel G; D D, posts upon which the slides E rest, and through which they are strongly bolted to the bed plates; F, carriage containing 14 moulds, each of which is provided with a moveable bottom, or follower, which rests upon the bottom plate of the carriage. To each of these followers two stems are attached, which project through the bottom plate. The carriage is guided in its movements by embracing the four slides E, and receives its reciprocating motion from a crank or other mechanical equivocal movement, by means of a connecting rod or pitman P. The extent of the motion to the carriage is such, that the whole set of moulds pass under the press wheel G each way, thus equalising the density of the brick. The press wheel G, is placed vertically over the bearing roller H, and above the moulds—its journals turn in boxes, which are strongly secured between the vertical posts C C. H, is a friction or bearing roller, upon the periphery of which the mould carriage rests, and is sustained under the pressure necessary to force the clay into the moulds; I, hoppers, into which clay is thrown; R, clay box, upon which the hoppers rest, and in which the press wheel works.—This clay box is made fast to the posts C C, its lower edges being as near to the face of the moulds as possible so as not to rest upon them. In each end of this clay box a knife is placed ranging with the face of the moulds, so as to shove off all the surplus clay; K K, parallel levers, to which are attached rods L L, upon the ends of which nuts or washers are placed in such a position as to be struck by and carried forward and up with the carriage, as seen on the left. Thus raising the brick out of this end or half of the moulds by the horizontal movement of these levers corresponding with that of the carriage, all tendency to cant the followers, strain or bind, the the stems, is avoided. As soon as the brick have been carried up above the upper surface of the moulds, a projection on the side of the carriage comes in contact with, and moves an arm on the vertical rocking shaft N, which has another arm that gives a lateral movement to the parallel levers M, by which the brick are shoved off the carriage on a table. The bars M, are brought back to their original position by the weights O O. Patented May 16, 1846, by T. Culbertson.

A Cool Fiddler.

The New Orleans Picayune tells the story of the snagging of a steamboat, with her owner on board, who was very fond of playing on the violin. The captain, pilot and engineer were in the cabin playing cards one day, when her bow struck a snag with a force that knocked a hole in her as large as a hogshead. The shock upset the faro bank and those gathered around it, and caused a general confusion and consternation among all except the owner, who, having righted himself in his chair, recommenced his tune where he left off, and went on as though nothing had happened.

"She's a sinking," shouted an Arkansas man, dressed in a hickory bark coat, who was making his way out of the cabin, with a pair of saddle bags on his arm. "Tomahawk me, if she ain't sinking sure."

The owner heard it, but fiddled away as unconcerned as Nero at the burning of Rome

"Three feet water in the hold! Run the old Buzzard ashore if you can!" shouted the captain. The startling words reached the ears of the owner, but he continued to saw away.

A passenger ran to him and bawled out—

"Did you know the boat had snagged?"

"I suspected something of the kind," coolly answered the owner. as he laid his left ear upon his violin, a la Ole Bull, and appeared perfectly enchanted with his own strains.

"She'll be lost in five minutes," continued the passenger.

"She's been a losing concern these five years," responded the owner, as he drew a most excruciating note from his fiddle.

"I can feel her settling now," responded the passenger.

"I wish she would settle with me, for what I have lost by her, before she goes down," was the owner's reply, as his right hand moved backward and forwards over his fiddle.

"But why don't you speak to the captain—give him orders what to do in the emergency!" asked the good-natured passenger.

"Interfering with the officers of this boat is a delicate matter!" meekly and quietly remarked the owner, as he still sawed away.

The boat careened over, and the next moment the cabin was half full of water.

The Buzzard, together with her cargo and machinery, proved a total loss. The officers, crew and passengers saved themselves by means of a yawl—the owner swam ashore with his fiddle under his right arm and the bow in his mouth. No insurance.

How Mr. Jones failed.

There once lived in the good city of Boston, a certain Mr. Jones. This same Mr. Jones was an eccentric man—very much so—and among his many other peculiarities was that of failing once in every two years. Some people now a days have the same extraordinary habit. Mr. Jones always paid his creditors fifty per cent. A very dignified and pompous man was Mr. Jones. Mr. Jones failed again—made an assignment of his effects as usual and was very much surprised when his assignee said to him, "Mr. Jones, we shall declare a dividend of forty per cent.' 'Sir,' said Mr. Jones, in a very dignified manner, 'you must make it fifty, sir.' I *always* pay fifty cents on the dollar, sir. 'It can't be done,' says the assignee, 'It shall be done,' said Mr. Jones, elevating his right hand. 'We have not enough property in our hands to do it' said the assignee. 'Sir,' said Mr. Jones, "declare fifty per cent—I always pay fifty per cent sir, and if you have not sufficient property in your hands to pay fifty per cent, I sir, will pay the balance *out of my own pocket*.'

Quaint Conversations.

"I think I have seen you before, Sir."

"No Sir, you have never seen me before, for I am a stranger in this country"

"I certainly saw you, Sir, at Reed's tavern, Lexington, on a winter evening."

"I tell you, Sir, I never was at Lexington in the winter, and besides, Reed never kept a tavern."

"Yes Sir, it was at Reeds' tavern on the hill; you was in the bar room."

"No Sir that could not be, for Reeds' tavern was not on a hill, and had no bar-room either."

"I am sure you was in the bar-room; it was on the evening of the quarter ball, and there was a nigger eating some bread and cheese on the bunk in the corner of the room at the time."

"I assure you Sir, you greatly mistake, for there was no quarter ball held at Reeds' on that night, and no nigger there: and moreover Reeds' bar-room had no bunk in it, and the nigger had no bread and cheese. So you are out at all points, and the sooner you give up the better."

A Corkscrew Direction.

"Come up to my room, I want to see you."

"Where is your room?"

"Come right in and turn round left; come up one pair of stairs, turn right round left again, come forward, come up, turn round, come up two pair of stairs, turn round three times, forward again and knock at the door.—"Stop, don't you think I could get there quicker if I should go down the middle and up again, cross over, turn round, forward two, dos-a-dos, Indian file, promenade, shake a stick, cut stick fiddle-stick, dance round two pair of partners, and so follow my nose:

"No, no, just follow my directions, and you will be sure to find me."

"Or lose myself to a certainty."

"Don't *feint*"—said the Corn to the Cloud.

"Oh dear, I shall drop," said the Cloud to the Corn.

"Come on, I'll catch you," said the Corn.

"You're a queer *blade*," said the Cloud—"I'll box your *ears*, if you are impertinent."

"You're getting *high*—but I would advise you to ref-*rain* from further remarks," said the corn *stalking* about.

An old woman who sold ale, being at church fell asleep during the sermon, and unluckily let fall her old fashioned clasp bible, which making a great noise, she exclaimed, half awake. "So, you jade, there's another jug broke!"

Two travellers having been robbed in a wood and tied to trees at some distance from each other, one of them in despair exclaimed, "Oh, I'm undone, I'm undone." "Are you," said the other, "then I wish you'd come and undo me."

"Is that clock right, over there?" asked a visitor, the other day.

"Right over there?" answered the boy, "it ain't nowhere else."

We understand, says an exchange paper that an ingenious Yankee has put up a saw-mill, which is to be driven by the *force of circumstances*.

A country merchant who keeps a general assortment, advertises among other things, "Black men's gloves; Plain lady's slippers; Red children's stockings; and new chilren's books."

Why do *white* sheep eat more hay than black ones? Ans. Because there are more of them.

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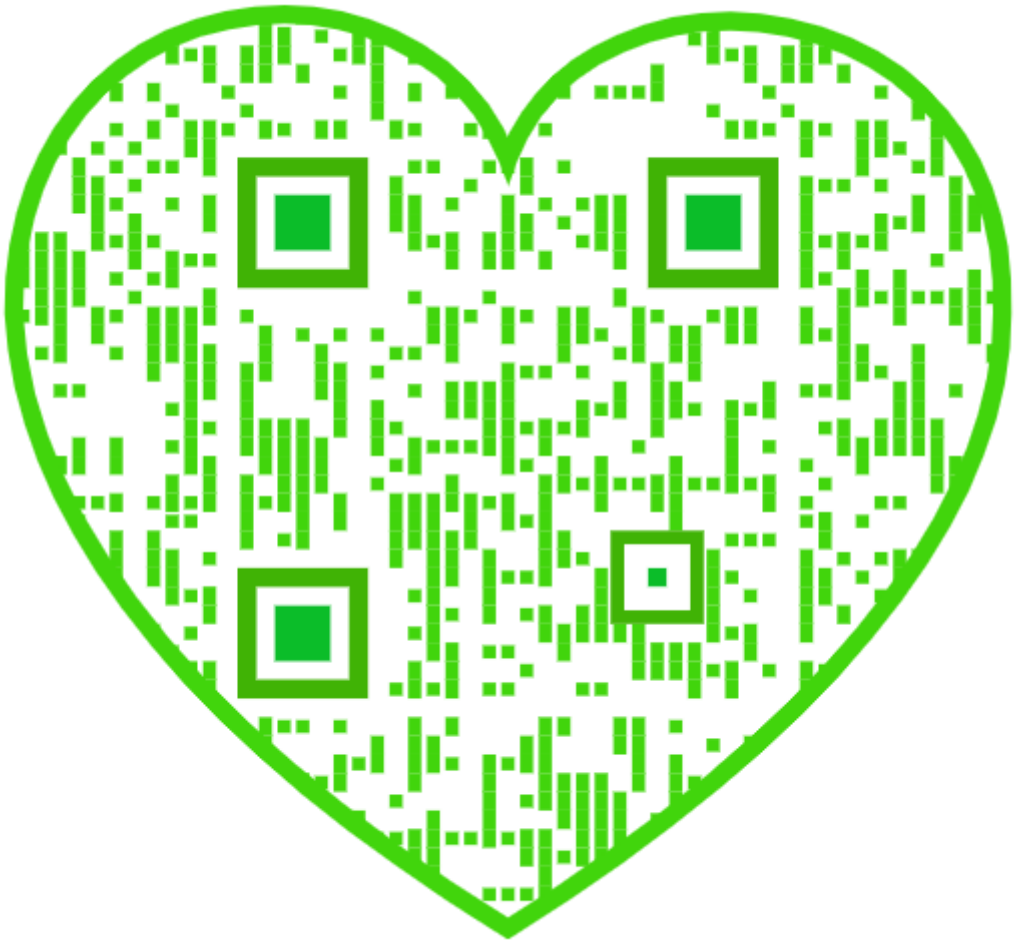

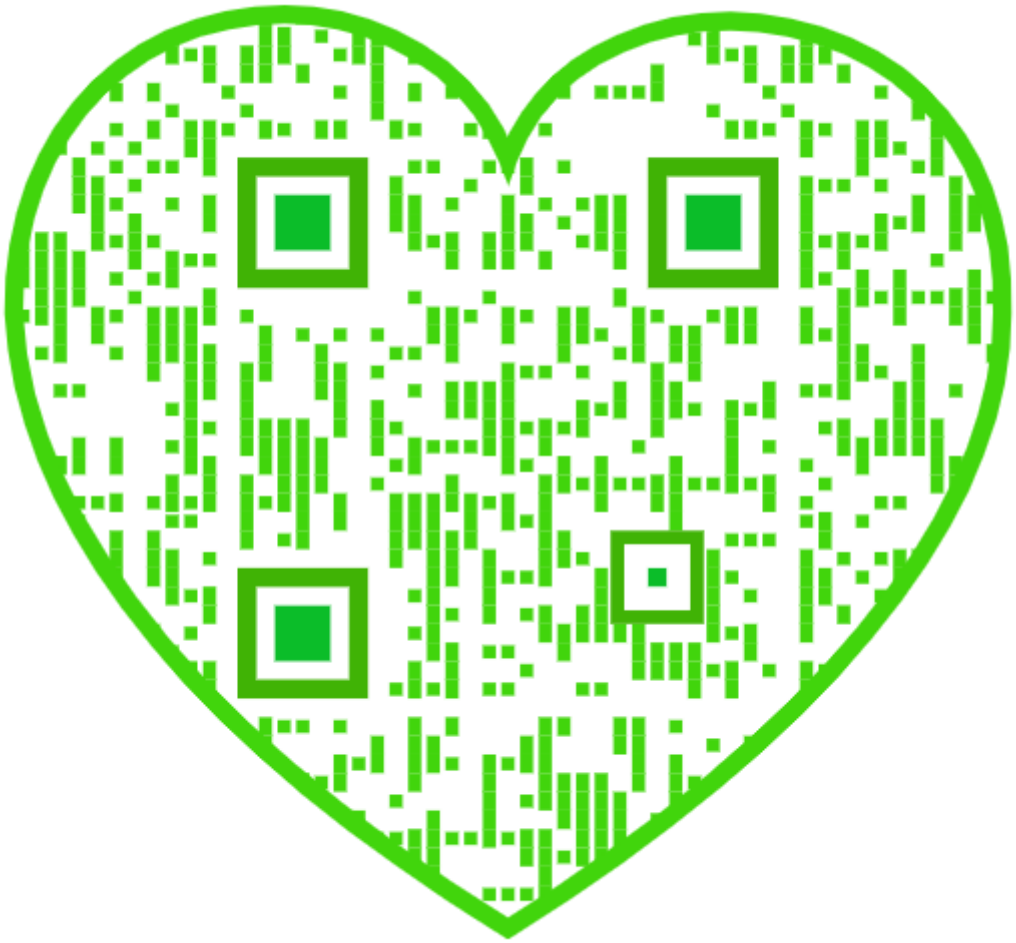

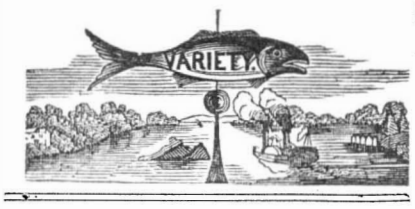

The Howitzer Batteries.

A variety of very portable armory has been prepared at Watervliet, N. Y. Each of the batteries consist of six twelve pounder bronze howitzers, made with extreme lightness and six carriages so constructed as to be susceptible of packing upon a horse or mule. The howitzer weighs about 210 pounds. The carriage is of similar weight, and two chests with ammunition, vary only a few pounds from the same. A pack saddle has been so constructed as to admit of its receiving either the howitzer the carriage, or two ammunition chests, carrying each 8 rounds of sperical case shot, shells and cannister. Thus the load of a horse does not exceed 220 pounds which is carried compactly and securely.

The Ohio Cultivator.

Among our numerous exchanges there are so many decidedly excellent periodicals, that it is difficult for us to notice any one in particular without doing injustice to others; but having for some weeks past observed in the paper above-named, a variety of articles "original and selected" of unusual interest, we are constrained to give our readers a hint on the subject. The Cultivator is published semi-monthly, (quarto form,) in excellent style, with many illustrations, for the low price of one dollar a year, by W. B. Bateman, Esq., at Columbus, Ohio.

Children Returned.

The two little children kidnapped some two months ago from Fallston, Pa, have been returned. They were found at Louisville, Ky., and brought up by the steamer Monongahela. The kidnappers had traded the children off in Louisville to a man for land in Missouri, whither the gentleman who succeeded in rescuing the children, has repaired in search of the villains.

Pleasing Military Indulgence.

On the occasion of the recent marriage of a private of Capt. Webster's company at Boston, the officer of the day allowed an escott of thirteen men in uniform, with side arms, under Sergeant Stearns, to accompany the bridegroom from the quarters in Pitts street to East Boston, and witness the wedding. A furlough of 48 hours was also allowed the bridegroom.

Gas Enterprise.

The city of Newark, N. J., was last week lighted for the first time with gas. On the evening of the same day on which the gas was let into the pipes, most of the shops were brilliantly illuminated. We are informed that preparations are in progress for lighting the city of St. Louis, Mo., by gas, with all possible despatch

An odd subject for a Picture.

A Washington paper says that the rotunda of the capitol at Washington is adorned with a large and beautiful painting, the subject of which is "*Ruth and her daughters*, Naomi and Orpa, at the time described in the 1st chapter of Ruth, &c." We commend the editor to the attention of the Bible Society.

The Grave of Slavery.

A late number of the N. Y. Sun, has an article which purports to show that Texas will be the grave of American Slavery, and says that "fanatical hostility to slavery will do more to strengthen and perpetuate it than all other causes united." It is the opinion of many that Texas "is a right smart place" for graves. But it takes a great deal of wisdom to make a *very* wise man, in these times.

American Railroad Iron.

The first bar of American railroad iron was made in 1844, and there are now sixteen or eighteen foundries at which it is made, and these make over 120,000 tons per annum.—This amount is sufficient to lay four miles of railroad per day, or twelve hundred miles per year. The progress of this manufacture, in the short space of two years, in this country, is very remarkable, and is a strong manifestation of American enterprise and skill.

Brief Delay of Justice.

The Police Gazette mentions the case of a convict, who jumped overboard and was drowned, as was supposed, while on his way Sing Sing. Some three years after the sheriff discovered the lost rogue among the convicts of that prison, having already been in service there 18 months. In jumping into the water he struck a pole, held on, was rescued, went to stealing again and very soon reached his original destination by due process of law.

American Deserters.

A gentleman from Mexico states that American deserters are scattered through the country, and are represented as in a deplorable condition. No less than twenty five had reached the city of Mexico, in a most wretched plight, were begging from door to door, and were received and treated with contempt by all. Eight had reached as far south as Orizava, and a little work had been given them at a factory, to keep them from actual starvation.

Guessing the Weather.

The weather was so warm at Albany some days last week, that the Knickerbocker expressed the confident anticipation that straw hats and white pants would make their appearance in a day or two: but before the paper had reached its readers, the north wind blew a la Greenland, and double overcoats and woollen gloves were in full requisition.

Land in Wisconsin.

The Madison, Wisconsin, Democrat states that there have been sold in the Milwaukie land district during the last year, 700,000 acres of land, which leave but 500,000 acres in the whole district subject to entry. Should the demand of the next year be half as great as the past one, there will not be an acre undisposed of there which is not entirely valueless.

Rapid Telegraph Writing.

The most rapid writing ever executed by telegraph, was recently performed at the Utica station. The following words were written in one minute.

"The writer had the very great pleasure of attending a dramatic exhibition at the Lunatic Asuylum on Saturday evening, given on the anniversary of"——

Church Benevolence.

A poor, but highly intelligent woman, and a contributor to our religious periodicals, says the New York Mirror, has been sick, almost dying for months. Friend after friend has deserted her, and even the church of which she is a faithful member, has declined giving her any assistance, because her illness has brought her in debt to it for pew rent.

Massachusetts Oranges.

In the conservatory of Col. J. Davis of Worcester, Mass., is an orange tree about six feet high and well proportioned, and branching out into a beautiful head. It bears at present 28 oranges, 22 of them having already assumed the full court costume of their golden maturity. One of the largest measures 14 inches in circumference.

Key West.

In one year 54 vessels have been wrecked among the various Keys on the Bahama Banks, the value of which is estimated at $1,414,800. Only treble that sum would cut a ship canal across the isthmus of Florida, shorten the distance to New Orleans, and avoid all the dangers of the Bahama Banks.

Beware of Rejecting Ladies.

A merchant of Cincinnati seeing a lady come into his store, mistook her for a notorious female who had been convicted of passing counterfeit money, and ordered her out of doors. Suit was brought against him, and he was mulcted in the sum of $380; for the lady who was thus rudely treated, was one of the most respectable women of Cincinnati.

Judge Fudge.

The Legislature of Ohio have appointed, as Associate Judge, a certain Mr. Fudge! So says an exchange paper, but we judge that there is no fudge about it, except the name of the judge which chances to be Fudge.

Mr. Croswell, of the Albany Argus, and Isaac Hill, of N. H., being the lowest bidders for the Congressional printing, will probably get the contract.

Iron Steamers.

We learn from Pittsburg that the iron steam-frigate Allegheny, will be completed and ready to launch in February next. There will also be completed and ready to launch at the same time, an exceedingly fine steam cutter, of 350 tons, 126 feet on deck, and 26 feet beam, to be called the Robert Walker. She will be supplied with the ordinary side paddle wheels, and an armament of one pivot gun and four small shifters; her rig will resemble a schooner, but with three masts.

An Artificial Man.

The Memorial Bordelais says, that near St. Sevier, there lives an old soldier, with a false leg, a false arm, a glass eye, a complete set of false teeth, a nose of silver covered with a substance resembling flesh, and a silver plate replacing part of his skull. After all he is probably less artificial than many modern fashionables, who are uniformly furnished with false hearts, very clumsily manufactured.

Avoiding Accident.

A correspondent suggests that in order to avoid accidents, all prepared gun cotton should be colored red, or some other color, that it may not be thrown into the fire by mistake. Perhaps it would be quite as well to have all other cotton colored, that the gun cotton may be distinguished by remaining white.

Washington Gossip.

The lady of a Senator is reported to have said to her physician, concerning a female friend of hers, that she was dreadfully afflicted: she was so lame that she could neither *lay* nor *set*. The Doctor suggested '*roosting*,' as being perhaps under the circumstances the best substitute for the wished-for repose.

Fanny and the Pope.

Fanny Ellsler has visited the Vatican, and was presented to the Pope by Colonel Plyffer, of the Swiss Guards; and Pius blandly said, that 'talent in every department of human excellence was ever welcome to his dominions.' This was very complimentary to the dancing lady.

Magnetic Telegraph.

A contract has been entered into, we understand, between the Hon. Amos Kendall, agent for the patentees, and some parties in Philadelphia, for the construction of a line of Morse's electro-magnetic telegraph between Philadelphia and Pottsville, and thence up the Schuylkill Valley to Mauch Chunk.

A line has recently been opened, and is now in full operation, between Toronto, C. W., and Hamilton. The whole line between Toronto and Buffalo is supposed to be nearly ready for operation.

Coal in Mexico.

A very extensive bed of bituminous coal has been discovered at Guerrero, a Mexican town of 4,000 inhabitants, situated on the Salado river, 125 miles above Camargo. It is now worked by an American company, and promises to be of vast importance.

Chinese Objections to Christianity.

The Rev. Mr. Smith stated, at a late missionary meeting at Cambridge, that the main objection urged against the Christian religion by the Chinese, was the divisions among Christians themselves.

Millenarism.

Rev. Charles Beecher, son of the Rev. Dr. Beecher, is publishing a series of articles, designed to show that the second coming of Christ is to usher in the Millenium and is near at hand.

To be long Remembered.

A fight took place at Williamsport, Penn. in which one of the belligerents bit off his adversary's nose. We have not learned whether the biter has been bound to keep the *piece*.

Dry Dock at Brooklyn.

Nearly 500 men are employed in excavating this work. Over $400,000 have already been appropriated to it, and it is believed that its completion will require three years.

American Coal.

The area of coal beds in the United States is equal to about 150,000 square miles, the average depth of which is 49 feet, which includes only the good merchantable article.

A Deep Mine.

The deepest coal mine in Pennsylvania is the Salem vein, at Pottsville, Pa., which is now worked at a depth of 900 feet below the level of the surface seams.

Hon. Mike Walsh, member of Assembly, not having succeeded in finding a subterranean boarding house in Albany, has consented to take lodgings above ground, at the Broadway House.

The Camden S. C. Phœnix, mentions the application of gun cottton to the propulsion of machinery. We don't anticipate much success to the experimentors.

The *escopette* of the Mexicans is an ugly little gun about two feet long, and carrying a two-ounce ball. It is an awkward arm, but is good to make a noise.

It is stated that some $20,000 mileage money has been paid by Secretary Dickenson, all in gold, and that after January he will pay everything in specie.

The St. Louis Union estimates that 3000 good and substantial buildings have been erected by the corporation of that flourishing city within the last two years.

Forty tons of Missouri pig iron were brought to St. Louis the other day in a keel boat from St. Genevieve, the product of the greatest iron mountain of that State.

Dr, Amos A. Mann, of Mercer, Me., has been committed to jail, to await his trial on a charge of refusing to marry, after having promised.

Under the head of "Receipts for the Ladies," an exchange proceeds to describe the process of *making chowder*. Pho, what have *ladies* to do with that?

A steamer is now floating on the waters of Lake Ontario, built at Kingston, U. C. of iron, the ore of which, was in the earth, in Scotland in March last.

The steamboat Maria Burt has been purchased at New Orleans for thirty thousand dollars, for the use of the U. S. Government. She is said to be a good boat.

T F. O'Connell, the tattooed man, won the prize race at Montreal with a British soldier, for $500, distance 3 miles: he did in 46 minutes and 8 seconds.

One hundred and forty pounds of pickerel were taken from the Lancaster, (Mass.) Millpond one day last week. There appeared to be a few more left.

Dr. J. W. Smith, of Northampton, Mass. recently rendered one of his patients insensible by the anodyne vapor, and while in that helpless state, extracted fifteen of his teeth.

A train of fifty-five carriages, headed by five of the best engines, containing 2500 passengers, made an excursion lately in England.

The Free Church of Scotland furnishes insurance of the lives of the missionaries sent by the church to Southern Africa.

It is asserted that if a piece of charcoal or charred stick be boiled with tainted beef or mutton. it will take away all the disagreeable flavor.

The society of Friends, in England, have contributed $30,000 towards the relief of the Irish poor.

Gov. Young's inauguration dress was made from cloth presented to him by workmen in a woollen factory at Ithica, N. Y.

At the lead mines near Galena, Illinois, in oneweek eight men took out ninety-one thousand pounds of mineral.

Mr. David Lee has raised five sound and full grown ears of corn upon one stalk—a thing seldom if ever known.

It is stated that a cotton factory is to be started in Milledgeville, Geo., to be worked by white persons only, by way of experiment.

A patent has been secured at Washington for casting ships in one solid mass of iron.

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For the Scientific American.

SHRINK NOT FROM TOIL.

BY WM. H. BUSHNELL

" The Mechanic, Sir, is God's Nobleman !"

Shrink not from toil, the sweat drops
Thy care-worn brows that gem,
Are nobler far than diamond's blaze,
Or regal diadem;
Are priceless jewels in thy crown,
More glorious, holier far,
Than blood bought wreaths by conq'ror won
In War's triumphal car.

Shrink not from toil, true manhood
Owns ye the best of earth,
Though Want has dogg'd you every step,
As blood-hounds from your birth;
Though when the evening's sun had sunk
Behind the dusky cloud,
Still bent ye o'er the heavy task,
Thy aching sinews bowed.

Shrink not, and oh, despise not,
The toil-stained brow and hand,
They're an emblem of your majesty,
The lordly of the land.
They tell of noble victory,
Against the cares of earth,
And harden'd hands abode war's shock
In days of Freedom's birth.

Shrink not from toil, what recks it,
Though stain'd thy sinewy hand,
And swarth thy brow as summer's sun,
In Ethiop's dusky land.
What though thy form is bent by toil,
Till grace ne'er claims a part;
It matters not, if pure thy soul—
Unbent by vice, thy heart.

Shrink not from toil, though ill repaid,
Though worldling pass ye by,
With scowl upon his pamper'd lip,
And smile within his eye.
True manhood will respect you,
True fame shall be thy meed,
And folly shrink before thine arm,
Raised in the hour of need.

Then shrink not, fear not thou stern toil;
Wield well thy heavy sledge;
Urge on the plane, the grating saw;
Sink deep the riving wedge.
Wring from the earth her hoarded wealth;
Brave the wild stormy sea;
The hand that toil'd to frame the earth,
Shall guard and cherish thee.

Chicago, (Ill.) Dec. 1846.

Just in Time.

A strange occurrence took place in one of the French provinces, a short time since. A Frenchman who, in 1812, had gone with Napoleon to Russia, and was long since believed dead, suddenly returned. His wife, meantime, had been married to three other husbands, and had just buried the last of them, when her first returned from Russia, and she began married life once more anew, and under happy auspices.

Polish Emigrants.

European papers say, large numbers of Poles are leaving their oppressed country for the United States. Their devotion to freedom has been attested by their daring attempt to throw off the yoke of their formidable oppressors.—They now come to the United States in the hope of enjoying here the boon denied them in their native land.

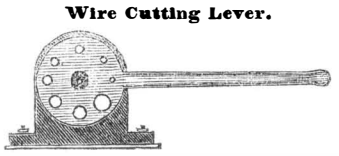
The Sailor at Auction.

At an evening book auction, a sailor, 'half seas over,' was so noisy and troublesome that the auctioneer threatened to turn him out. Jack entreated that he might stay long enough to make a bid. 'I won't take your bid,' said the auctioneer. 'You will,' replied Jack, 'for I'll bid you *good night!*'

Great Flood in Ohio.

The Ohio papers furnish appaling accounts of the destruction of lives and property in the vicinity of the Great Miami and Mad Rivers, by unprecedented floods in those rivers. The city of Dayton has been inundated, and there is not a bridge left in that section of the state. The damage to property at Dayton alone is estimated as high as $2,000,000. Cattle, hogs and buildings were floating in terrific numbers.

Wire Cutting Lever.



This little machine consists of two disks of tempered steel, one of which having a flanched base, is firmly secured to a work-bench by screws, while the moving disk is attached to the first by a centre screw; the two pieces being well fitted together, both are perforated with holes of different sizes to accommodate the different sizes of wires to be cut off for clock work and other purposes. The front disk or circle has a lever handle which, being depressed while an iron or brass wire is passed through any one of the holes, the wire is cut off square and smooth with little exertion on the part of the operator. One hundred cuts per minute may be thus made.

Jackson's Patent Enunciator.

This is the title of one of the most deeply complicated and perfectly arranged machines that has appeared in modern times. It is intended as a substitute for the usual suit of bells for hotels and steamboats. We have had the pleasure of examining a specimen of this invention, which is arranged in a highly ornamented rosewood frame, in the area of which are regularly arranged *two hundred* different conspicuous numbers, each of which, however, is ordinarily masked by a sector card delicately mounted on a pivot connected with the machinery inside. When any one or more of the two hundred pulls is started, a hammer strikes on a musical toned bell, and the figures of the corresponding number are unmasked in front and the vibration of the card continues for some seconds to indicate the number last brought to view: but as often as required the numbers are all remasked by a gentle motion of a neat lever, which communicates with the 200 cards at the same time. This machine has only to be seen to be admired, and we are informed that the inventor,—Mr. T. D. Jackson, formerly of Rochester, but who has recently taken up his residence in this city,—has more orders than he can supply for some time to come.

Ladies Cars.

We learn from the Washington Fountain that the Board of Directors of the Baltimore and Ohio Railroad have it in contemplation to provide without delay, for the Main Stem and the Washington Branch, a number of elegant cars, each to be fitted up with two saloons, one of which is to be devoted to the occupation of ladies only and those gentlemen under whose charge they may be, and the other to be appropriated exclusively for ladies travelling with their children.

Buckwheat for Coloring.

The fresh blossoms and succulent stems of buckwheat have been applied in Europe for the purposes of dyeing wool, &c. The infusion, by the addition of preparations of bismuth and tin, produces a beautiful brown color. From the dried flower bundles, different shades of green are obtained. The Siberian species of wheat, in particular, yields a fine yellow, which upon boiling the wool still longer in the dye, changes into a golden tint, and at length becomes a beautiful yellow.

Injudicious Notice.

An exchange says:—"An improvement in paddle-wheels, by which the Atlantic may be crossed in six days, has been invented by a Baltimore mechanic." Our readers will, of course understand that this wonderful invention has never been tried, and probably never been represented in model or drawing, but consists in a mere vague imagination of some visionary person, who knows nothing of steamboats nor mechanical powers. We have seen too many similar announcements, and regret that our cotemporaries are not more considerate than to impede the progress and tarnish the brilliancy of excellent *real* inventions, by unreasonable notices of fictitious ones.

The Cincinnati Brick Machine.

These machines, a description of which is given on our first page, are manufactured by Culbertson, M'Millen & Co., who are prepared to furnish machines and sell patent rights by territory, at their establishment at Cincinnati, Ohio.

TO CORRESPONDENTS.

"F. R. of G."—There is nothing *very* peculiar in the bath of which you inquire. The water is elevated by a small crank windlass. A simple verticle shower is given, but it may be used as a vapor bath occasionally.

"D. of C."—We think your plan for a paddle-wheel is excellent—the best we have ever seen. Had you given your address in full, we should have written to you with a definite proposition. But we can give no further notice of the invention without knowing the name of the inventor. (We take this occasion to remind our respected correspondents that we expect their full names to their communications, although, in our notices, we insert initials only.)

"J. M. S.," of Millersburg, is informed that his papers are duly and carefully mailed, and the fault lies in the post office department if they are not regularly received.

"J. B. of M."—The overshot wheel is decidedly preferable to either the pitch-back or breast wheel, if the amount of fall is uniform and exceeds eight feet. But if the head of water is variable, a breast wheel with several gates of different height will best accommodate. In either case, the lower section of the wheel should be encased with a close apron, to prevent the discharge of the water from the buckets before they reach the bottom of the wheel. The most advantageous velocity of an overshot wheel is four feet per second.

"R. S. T. of B."—Your plan for working steam by expansion, with an intervening steam chamber between two piston cylinders, is, without doubt, a good plan for operation, but would be too expensive. And, moreover, there has been quite recently introduced three or four different plans—some of them patented—very similar in principle to yours. The competition in this line is such that we cannot offer you much encouragement.

"J. B. of D."—We can find no books in the city whch gives a variety of intelligence on the subject of metalic cements, and believe there is no such art known as you mention. A mixture of iron filings two parts, fine sal amonia and flour of sulphur each one part, mixed to a paste with water, and applied to cracks in iron kettles or boilers, stands fire well; but the solders are best for brass or copper.

"S. P. J. of B."—We have explained that subject with demonstration in a former number; but, in answer to your inquiry, we will merely say that if the arms of a reaction rotary engine moves with precisely half the velocity of that with which the steam escapes, the effect of the steam on the wheel will be about one-half of its full available power, or about two-thirds of the power of a cylindric engine with the same quantity of steam, (allowing for friction;) but if the motion of the arms be either more or less than that proportion of velocity, the effect or power is greatly diminished; though the diminution of the power is greater with an increased than with a decreased velocity in proportion.

"R. T. M. of E."—We know no better rule for finding the diameter of a circle of a given area, than to multiply the given area by 4, divide by 3·1416, and extract the square root.

The following diameters to your proposed areas were readily furnished (in a very few minutes) by Dr. Clowes:—

Areas proposed.	*Diameters.*
1.41393	1.3416
1.778151	1.5046
1.845098	1.54845
3.90309	2.1932
4.9504243	2.05949
5.69897	2.6937

If you detect any error you may attribute it to types.

"G. A. S. of R."—Two or three plans have been introduced, whereby two vibrations are produced by each revolution of a shaft; but as your mode is probably diverse from either, and as all new mechanical movements are interesting, it may be better for you to send us a rough sketch with some explanations.

An important canal has been opened in Bavaria, by which the Rhine and Danube, and consequently the Black and North Seas are united.

LATE FROM THE ARMY.

By an arrival at New Orleans on the 1st, we have intelligence that Santa Anna, at the head of 15,000 troops, was on his way and within four days of Saltillo—and that Gen. Worth, unable to maintain his position against such overwhelming numbers, was slowly falling back in the direction of Monterey; and that General Taylor, in anticipation of an attack on that city, was fortifying it at every assailable point. It was also stated that Gen. Patterson, who was on his march from Camargo to Tampico, being made aware of the state of affairs, had countermarched the division under his command, and was rapidly advancing, by forced marches, to Monterey.

From Mr. Fowler, a gentleman of New Orleans, who came passenger in the steam-propeller Virginia, and who left Saltillo on the 17th ult., the Delta learned that, previous to his leaving, Gen. Worth's spies had come into camp, and reported that Santa Anna was within three or four days' march of Saltillo, and rapidly advancing at the head of about 15,000 men. Gen. Worth immediately sent an express to Gen. Taylor, which reached him at Victoria at 11 o'clock, P. M., on the 17th; and at 3 o'clock, A. M., the next day, Gen. Taylor despatched two regiments, the Kentucky and Tennessee volunteers, to reinforce Gen. Worth at Saltillo, intending to follow, himself, as soon as possible with all his disposable force. Gen. Taylor felt confident of his being able to arrive at Saltillo before Santa Anna could reach there The whole force of Gen. Taylor would then amount to about 10,000 men, which he considered sufficient to cope with any force that Santa Anna could bring against him.

Intelligence has been received from Tampico up to the 26th ult. On the 17th, the steamer Virginia arrived at Tampico with 250 troops on board, and on the day after, the steamer Cincinnati, with Gen. Shields and Staff, Capt. Lumsden, and a couple of companies of volunteers. In coming over the bar of that port, the Ewing met a brig with another reinforcement of 200 men, bound up from Brazos. After the arrival of the force above mentioned, Colonel Gates deemed the town sufficiently secure.—The Alabama regiment, and the regular troops now stationed at Tampico, number nearly 1800 men. No Mexican troops had been seen or heard of since the 16th, and our force felt perfectly secure from any attack by the enemy.—The troops were healthy, and well pleased with their change of position.

Still Later.

By the latest arrival at New Orleans from Brasos Santiago, the report of the advance of Santa Anna upon Saltillo is confirmed beyond all doubt. The strength of the force with him is supposed to approach hard upon 30,000.—General Butler, with all the troops he could muster, had left Monterey to join Gen. Worth. Gens. Lane and Marshall, with what forces they could muster at Camargo, on the 20th ult., started on forced marches for Saltillo.—Gen. Wool at the latest advices, had marched within 90 miles of Saltillo, and it is supposed would reach there in time.

When the express, with the intelligence of Santa Anna, reached Gen. Taylor, he ordered the immediate return of Generals Twigs and Quitman, and their advance to Saltillo.

It was supposed, by passengers at New Orleans from Brazos by this arrival, that the threatened battle took place on Christmas, by which time there can be little if any doubt that Generals Taylor, Twiggs, Quitman, Butler, and Wool, and the Camargo troops, had effected a junction with General Worth—numbering in all 7,000 troops.

The new Mexican Congress has promptly refused to receive any proposition from our Government until all hostilities, active or threatened, were withdrawn.

New Steamer.

The steamer New Orleans, which cleared on Monday last for the South, is larger than the Southerner, and equally staunch and strong. She is to take the place of the New York, between New Orleans and Galveston. She cost $110,000.

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NEW INVENTIONS.

The following are the claims of inventors to new inventions recently patented, but of which we can give no description.

BY FOWLER M. RAY.

Dec. 17, 1846.

Improvement in Car Wheels.

What I claim as my invention, and desire to secure by Letters Patent, is making railroad wheels in two parts, and fitted together substantially as herin described, when embraced and held together by flanches and screw bolts passing through the flanches, in manner and for the purpose substantially as herein described. And I also claim, in cambination with this method of constructing and connecting the two parts of railroad wheels, interposing the cushion of leather or other elastic substance between the inner and outer portions of the wheel, substantially as described, whereby railroad cars, &c. are relieved of a portion of the jar consequent on the striking of the wheels against the rails as set forth.

—

BY STEPHEN F. GATES.

Dec. 28, 1846.

Improvement in Slide Valves of Steam Engines.

What I claim as my invention, and desire to secure by Letters Patent is, the following, viz: The means of neutralizing the effect of the pressure of the steam or fluid, as the case may be, upon the backs of the valves, and equalizing the pressure of the atmosphere on the upper side of the blank valve, and on the under side of the valve, thus preventing friction and allowing the valves to move with perfect ease when under a pressure, as above set forth, viz: by applying or attaching the blank valve, to the commonly used slide valve as above described, in combination with the false aperture, and the aperture to the atmosphere through the cover, and the inverted seat, as above described, and all operating as above mentioned and set forth.

—

BY CHARLES BAEDER,

Dec. 28, 1846.

Improvement in finishing Raw Hide Whips.

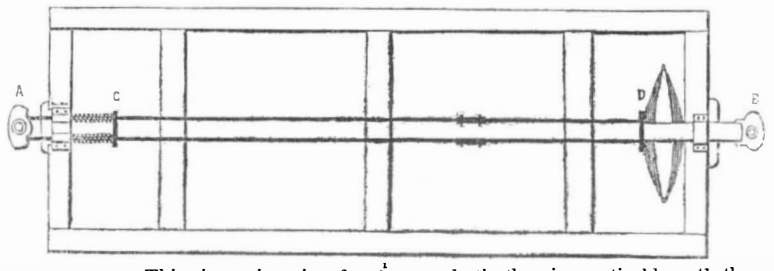
What I claim as my invention, aud desire to secure by Letters Patent is, the the process herein described of finishing raw hide whips, by submitting them to heavy pressure in suitable dies, and subsequently smoothing them by planing, by suitable planes, all as herein described.

A large Locomotive.

The dimensions of the Great Britain locomotive engine, constructed at Bromsgrove station, and now employed to work the heavy goods trains upon the Lickey Incline on the Bristol and Birmingham Railway, are as follow, viz :—

	Ft.	In.
Diameter of Cylinders,	0	18
Length of stroke	0	26
Diam. of each of the six wheels	0	45
Distance from centre to centre of front wheels	6	9 3-4
Diameter of pump rams	0	2 1-2
Breadth of shell of fire-box	4	4 1-4
Length of do outside	3	11
Height from bottom to top	6	3
Height of lower edge of cylinder	2	0
Distance from centre to centre of hind wheels	6	11
Length of boiler	12	0
Length of tank over boiler	11	9
Breadth of do	3	7
Depth of do	2	7
Distance from centre to centre of cylinders	6	2
Length of tubes No. 134	12	6
Diameter of do	0	2
Diameter of piston rods	0	3
Length of chimney	6	9
Circumference of do	5	6
Height of smoke box	6	1 1-2
Width of do	4	10
Diam. of boiler cylinder vertically	3	10
do do do horizontally	3	9
Total weight of engine	30	tons.
Weight on front wheels	9	tons.
Weight on centro wheels	12	tons.
Weight on hind wheels.	9	tons.

CONNECTING BARS FOR RAILROAD CARS.



INTRODUCTION.—This invention is of a character that is likely to come into immediate and extensive use on all railroads, and excite wonder that it has not been introduced before. We believe it to be novel in its principles—at least we have seen nothing of the kind. By the ordinary mode of connecting together the several cars of a train, the draught springs of the front car have to sustain the entire force applied to the whole train, and consequently the springs are required to be ten times as strong and heavy as they would be required for a single car. But by this improvement,—which is calculated to diminish rather than increase the expense,—no draught spring in the train is required to sustain the draught or momentum of more than one car; consequently the springs may be made much more elastic than is practicable with the ordinary mode of connection.

EXPLANATION.—The engraving represents the bottom of a car body inverted. The connecting heads A B at each end of the car, are attached to short draught bars, which extend to the caps or cross-heads C D, and the caps are connected to each other by the two long rods. Each cap is connected to one of the cross beams of the car by springs either eliptic or helical, as represented in the engraving: thus preventing all the jerking and bumping, so disagreeable to passengers when the trains are about starting or stopping. This excellent mode was invented by Mr. W. Watson of this city, who is preparing to apply for a patent therefor.

CHEMISTRY.

Continued from No. 15.

BROMINE.

The term *bromine* is from a Greek word, signifying "a strong disagreeable odor."—This substance was discovered only as lately as the year 1826; it resembles chlorine in many of its habitudes. It is of a brownish red color, very disagreeable smell, sharp strong taste, powerfully corrosive of organic bodies, and when taken internally, a violent poison.—Its specifiic gravity is 2-96; it destroys vegetable colors almost as powerfully as chlorine. Like chlorine, it sets fire to certain metals when brought into contact with it; it is not combustible, and it extinguishes combustion; it becomes solid at a little below zero; but il combined with water, so as to form a hydrate, it affords fine red crystals at 32 degs. An acid is formed by the combination of bromine with oxygen, and is called bromic acid; another with hydrogen is called hydrobromic acid.—Chlorine also combines with it, and forms a chloride. There are numerous other combinations of bromine, but the compounds are unimportant.

IODINE.

This substance was first discovered in 1811, by a saltpetre manufacturer in Paris. It is derivable from sea plants, and in some of its properties much resembles chlorine, which is also a marine production. If common seaweed be powdered dry, and treated with sulphuric acid whilst subjected to heat, a violet-colored vapor is expelled, which if collected in a vessel, condenses in scaly dark-gray crystals, with somewhat of a metallic lustre.—These are iodine, so called from the violet-color of its vapor; iodine being a Greek word, and signifying "violet colored." Its specific gravity is 3-0844. Its smell is disagreeable, its taste acrid and hot, and it possesses poisonous properties. It is a powerful stimulant, and has of late been much employed as a medicine. It destroys vegetable colors, but not so completely as chlorine. It melts when heated to 224 1-2 deg., and volatilixes at 351 1-2 deg. It forms a beautiful blue color when mingled with water holding starch in solution; it is itself slightly soluble in water but more so in alchohol and ether. Iodine combines with oxgen in three proportions, forming iodic acid, iodous acid, and oxide of iodine: with chlorine, forming chloriodic acid; with bromine in two proportions, forming bromides; and also with azote aud hydrogen. A compound of iodine and azote is exceedingly explosive.—But a particular account of these substances do not require to be given in this place.

FLUORINE.

The existence of this substance, strange to say, is conjectural; but its separate identity is supported by the strongest analogies. It exists or rather is supposed to exist in fluor or Derbyshire spar, and is thus provisionall called fluorine. If some of this mineral in powder be distilled with strong sulphuric acid, from a leaden retort (a vessel somewhat of the shape of common Rupert drops) into a leaden receiver kept cold with ice, an intensely active fluid is produced. "It has," says Dary, "the appearance of sulphuric acid, but it is much more volatile. When applied to the skin, it instantly disorganizes it, and produces very painful wounds. When it is dropped into water a hissing noise is produced, with much heat, and an acid fluid is formed." This substance has been called *hydrofluoric acid*, because it is conjectured to have fluorine as a base, combined with hydrogen to form an acid, upon the principle which we have formerly described. Other views have been adopted with respect to this substance, but the above is the one now generally admitted.

CARBON.

Carbon or charcoal is found in many different forms, and can be prepared by burning wood, coal. &c. in close vessels The diamond is pure carbon, and plumbago or black-lead is principally composed of this substance with a little iron. It burns in oxygen with considerable brilliancy, although in common air it emits but a feeble light. If carbon be burned in a close vessel, filled with oxygen, the carbon will be entirely consumed, and the oxygen so much changed that if a lighted taper be put into it the light will be extinguished. Carbon combines with all the supporters of combustion, and with oxygen forms carbonic acid. This acid may be prepared in the pneumatic trough, by putting into the retort an ounce of hydrochloric acid, previously mixed with two ounces of water, along with a table spoonful of the carbonate of lime. An effervescence takes place between the acid and the lime, carbonic acid gas being given off, which can be collected in jars and condensed in water. Carbonic acid is fatal to life, and the gas will extinguish a candle introduced into it.

OXALIC ACID.

This substance, which is also a combination of carbon with oxygen, may be formed by digesting sugar along with nitric acid. The acid is deposited in small crystals, which have an intensely acid taste, and when taken internally even in small quantities, destroys life.—It combines with bases, and forms a genus of salts called *oxalates*. Carbon is capable of uniting with chlorine in three different proportions, with bromine in one or two, and with iodine in two. But we must pass from these compounds to those of far greater moment which it forms with hydrogen.

There are many combinations of hydrogen and much uncertainty prevails both with regard to their number and nature: they are all designated by the name *hydrocarbons*, or more properly *hydrocarburets*.

A Valuable Bird.

The *Mino* is a Java bird af extraordinary powers, and speaks with great fluency. A tavern keeper of Philadelphia had one, valued at $500, which is supposed to have died by bursting a blood-vessel in imitating a person coughing in the room.

Suppression of the Smoke of Furnaces.

(*Concluded from No.* 16.)

"From these considerations, and from experiments conducted under our inspection, with a view to determine this point to our satisfaction, we arrive at the conclusion, that although from careless management of fires, there is often no saving, and that indeed there is frequently a loss of heat in the prevention of smoke is in many cases attended with, and may, in most cases, produce an economy of fuel.

"It may be unnecessary to remind your lordship, that the cause of the emission of smoke in manufactories may be classed under three different heads, the relative importance of which involves very different considerations in any attempt to legislate for its prevention. These are: 1. The want of proper construction and adjustment between the fire places and the boilers, and the disproportionate size of the latter to the amount of work which they are expected to perform. 2. The deficiency of draught, and improper construction of flues leading to a chimney of inadequate height or capacity. 3. The carelessness of stoking and management by those entrusted with the charge of the fire-places and boilers."

It cannot for a moment be questioned, that the continued emission of smoke is an unnecessary consequence of the combustion of fuel. and that, as an abstract statement, it can be dispensed with. But your lordship will perceive that there are grave difficulties cnnnected with a general law to the effect that it shall be unlawful for chimnies, after a certain date, to emit smoke. With regard to steam engines, the processes for the prevention of smoke have been matured, and in very many instances successfully employed. In this case, therefore, a law to this effect could be most easily and promptly carried out. In other cases mentioned in Lord Lincoln's letter, such as distilleries, dye works, &c., the legislature has already granted powers in the Manchester Local Act; and as there are certain instances in which processes for the prevention of smoke have with them proved successful, it may be anticipated that the nuisance arising from these sources may be much abated, if they be subjected to the general law with that forbearance and caution which, under certain cases, is so advisable. There are certain processes in glass-works, iron-furnaces, and potteries, in which it is neither possible nor desirable to apply a general law for the prevention of smoke; although the nuisance may be partially mitigated, by causing the steam engines employed in them to be so constructed as not to emit smoke. It is useless to expect, in the present state of our knowledge, that any law can be practically applied to the fire-places of common houses in a large town like London, contribute very materially to the pollution of the atmosphere; but it may be confidently expected, that by a wise administration of a legislative enactment, carefully framed, a great progressive diminution of the smoke of large manufacturing towns will be effected, and that the most happy results will thus flow from this improvement, in the increased health and moral feeling of their population, the intimate connection of which with facilities for cleanliness has been so often pointed out.

Severe Compliment.

The Boston Star having been recently enlarged, the circumstance is thus noticed by the Chronotype:—"The Boston Daily Starling, last Friday, became a star of the seventh magnitude, having added one to the six brilliant columns previously on its page, and an editor from one of our luminous whaling cities. Far be it from us to *flatter* the Star—for it was flat enough before—or lead it to think that two flats can make a sharp, for neither the music of the spheres nor of the Stars of Friday and Saturday furnish any evidence of it; but we must express our admiration of that genius which, when foiled in enlarging the quantity of its *tin*, enlarges the extent of its tin-foil."

Divinity of Printing.

Rev. J. N. Maffit says that God was the first Printer. He gave from his hand out of the blackness of Sinai, that mind of God—the decalogue of all moral law, the claim of man upon man, and God upon all.

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NEW YORK, JANUARY 16, 1847.

Terrestial Convulsions.

We have in a former number alluded to some extraordinary disturbance in the atmosphere, noted by Prof. E. Meriam, on the 3d of September. Mr. M. has since obtained intelligence from various parts of the world, and ascertained that at about the same time there were a succession of convulsions which he mentions in the following order :

Iceland was heaved by Earthquakes and Volcanoes on the 22d of August; Earthquake on the rivers of New England and its sea coast on the 25th ; throughout Tuscany in Europe on the 27th of August—on the 2d of September at Java ; at Grenada on the 6th ; at Trinidad on the 10th ; at Deerfield, N. H. on the 12th ; and Cape Haytien on the 15th of September, thus making 8 convulsions in as many different and distant locations in 24 days —followed by fearful tempests—dreadful gales —terrific hurricanes—hail, rain and snow— destroying thousands of human lives, and casting into the lap of ruin millions on millions of property. At Java, at the date above mentioned, the Gunong Meraphi, a high mountain on that island, was throwing out immense volumes of fire and smoke, and a river of burning lava was running down the mountain side.— This mountain has not before been convulsed for 1000 years.

P. S. Since writing the above we have seen anoth report of Meriam's observations, stating that foe thirty-six hours on the 27th and 28th of December there prevailed an equilibrium ot the atmosphere which strongly indicated a convulsion in some distant part of the earth.

Letter from Professor Morse.

The following letter from Professor S. F. B. Morse appears in the Philadelphia Ledger, in relation to his new telegraphic invention for printing the alphabet, (instead of the present hierogliphics,) and for which he proposes taking out a patent.

Messrs. Editors :—I notice an announcement in your papers of yesterday, that I had recently made "some improvements in my telegraph, for which I had entered a caveat at the patent office." It is true that I am taking measures to secure by patent some recent modifications of my telegraphic apparatus, simplifying the printing of my telegraphic alphabet; my experiments on this point having been satisfactory. It is true also, that I have applied a fact in electro magnetism, (never before to my knowledge applied,) in the construction of an apparatus for printing *the common letters of the alphabet*, and I have devised an apparatus ot the greatest simplicity.

But simple as it is, incomparably more so than any contrivance for that purpose as yet published, I really do not attach any great importance to it, for the reason that it is mathematically demonstrable, and that from the very nature of such a contrivance, it cannot successfully compete in the rapidity of recording intelligence, with the simple mode I have in use, and which is a consequence, mainly, of the intervention of my telegraphic alphabet. For example, the President's Message, entire, on the subject of the war with Mexico, was transmitted with perfect accuracy (exclusively for and at the expense of the Baltimore Sun,) at the rate of 99 letters per minute. My skilful operators in Washington and Baltimore, have printed these characters at the rate of 98, 101, 111, and one of them actually printed 117 letters per minute, and I have little doubt that the accomplished operators in your Philadelphia office could easily show similar results.— He must be an expert penman who can write legibly more than 100 letters per minute ; consequently, my mode of communication equals, or nearly equals, the *most expeditious mode of recording thought.*

A Rochester paper recently contained a paragraph, which has been extensively copied— to the effect that there was a new invention about to appear, which was to " impress every letter distinctly on paper," and "*of course,*' the writer observes, "do away with the characters to represent the alphabet." This effect of such an invention is by no means such *a matter of course* as the writer supposes.— Allow me a word on that point.

My very earliest conception of the telegraph embodies this idea to wit: "The marking in permanent manner, of a character to denote the intelligence transmitted." It was certainly very natural then, that the marking of the common letter of the alphabet should be suggested to my mind, and I of course expended sufficient thought upon the subject to perceive that it was practicable in several ways, but also that any way, at that time was necessarily complicated. I was intent on simplicity, and adopted my present system because of its simplicity, and greater efficiency.

My friend and co-proprietor in the telegraph Mr. Vail, some time in the spring of 1837, was intent on producing an instrument of this kind, and gave the project much thought, I uniformly discouraged him, however, on the ground, not that such a plan was impracticable, but in comparison with the method I had devised, worthless, since, were such a mode perfectly accomplished and in actual use, my more simple mode would inevitably supersede the more complicated mode. Mr. Vail, in his work entitled, " The American Electro-Magnet Telegraph," discusses this whole matter from page 157 to 171. Experience has proved that when my system has been put to the test in competition with the common letter printing telegraphs in Europe, mine has been proved superior. In Vienna, for example, Mr. Bain's letter printing telegraph, (the most ingenious as yet published) was explained with mine publicly before one of the largest and most learned assemblies ever convened in that capital, comprising the Court and nobles of Austria, and the American telegraph carried the day by acclamation, and is now adopted by that government.

I wish it distinctly understood, therefore, that my present invention of an apparatus for printing the common Roman letter, was not induced by any expectation that it will supersede my present plan, but solely to give the choice to any, who, after all the evidence that has been long published, of the intrinsic unimportance of such a result, may be desirous of seeing the common Roman letter printed, instead of my simple character signifying the same thing. I accomplish this result by the use of an apparatus very far less complicated than any published here or in Europe, I remain gentlemen, your most obedient servant,

Samuel F. B. Morse.

Now then :

We are truly glad to see this foregoing expression of Prof. Morse's sentiments on that subject, at this very seasonable time: as it fairly opens the way for us to introduce certain plans of machinery which we have almost involuntarily designed, and connected with this particular subject. And we shall boldly attempt to show that by a very simple arrangement of machinery, the entire cost of which will not exceed $50, we can print two hundred and fifty fair letters per minute—much faster than any man can write,—by the electro-magnetic telegraph, and by a single wire. To insure this, we only require the premises that two time wheels, clocks or watches may be made to mark equal time at different stations. If our plan is found to interfere with that of any other person, we shall be ready to compromise : but we are fully assured by examination of the subject, that the utmost facility in telegraphing must be accomplished by time, rather than by breaking and renewing the connections of circuit. Our plan of machinery is in the hands of our artists, and will be ready to appear in our next number.

The Beauty of the Rum Business.

It is reported that the average number of sudden and violent deaths in this city occasioned by intemperance, is about 300 a year— nearly 3 per day. Those legislators of the state or city, who either advocate the liquor business, or neglect to exert their influence for its suppression, are in a measure responsible for all these murders, violence and wretchedness. They will have a heavy account.

Hard Words—Science and Nonsense.

One of the greatest hindrances in the way of diffusing a taste for scientific reading among farmers and other working men, is the obscure and incomprehensible language in which some writers on science have seen fit to clothe their ideas. We admit that in treating on the sciences it is often necessary to use *terms* or *names* that to the unpractised reader are not familliar, and at first may appear forbidding : but this is not the evil of which we complain. It is that ridiculous affectation of great learning, which induces men of shallow minds to interlard their sentences with the greatest possible number of words derived from foreign languages, and such as few if any readers can pronounce or understand without the aid of a cart load of dictionaries. We cannot better illustrate our meaning, nor more surely call forth the indignation against this species of literary pretenders, than by subjoining a specimen of this style of writing which we find in a late number of the New York Farmer and Mechanic, in which paper it appears under the head of Tennessee Correspondence ; and the writer appears to be overburthened with the conviction that he is imparting to the world some new and profound discoveries relating to the tides,, and some other phenomena of nature. We think the editor ought, in mercy to his readers, to have appended a column or two of definitions. Now boys, hunt up all the dictionaries and encyclopedias you can find, and invite in the school master, then read and explain the following paragraphs ;— it will be a good winter evening's exercise, especially for *farmers* and *mechanics* for whose benefit it was of course designed.

"But aside from solar interference, the greatest tide is yielded when the moon acts with the greatest obliquity thro' the equatorial plane or longest diameter of the earth.

"Wherefore it may be inferred that the opponent tendencies of gravitation and repellance originate tides during inchohate efforts at equations, between home conservative and foreign disturbing forces.

"The earth and moon each emanate a conic column of relations concentrating upon their joint pivot of motion, but at the same time, the particles of both orbs preserve stronger action convergent on their own respective *true centres.*

"The movement of water is an equipoising attempt to provide against the accruing differences between the home and foreign influences upon the same matter, and hence an altitude of 40 feet tide, near the Arctic Circle, when the moon's declination is 28 degrees from the plane of the equator, would be resolved into a tide of 20 feet, where the moon's *action coincident* with that plane

"In every case of tides, it happens that the sides of the earth and moon next each other grant an ascendency to the foreign attractions over the reciprocal repellent action, but on the exterior sides, the attractions are counteracted because the mutual repellences have no opposition from the exterior direction to their action.

"This elevation of tides equally in opposite directions is, therefore, no paradox, else we could not find the magnetic attractions and repellent attributes coctaneously resident in the same mariner's needle ; yet, in the one case the results are very diminutive, and in the other very magnificent.

"It is certain that all those classes of properties termed calorific, luminous, gravitating or elastic, or any designated as electro-magnetic effluence, are actual subjects of of intangible law, and do ever become vivified instruments for manifesting moral capacities.

"By living organization, spiritousity obtains developement and seizing upon simple instinctive perceptions tests the soundness of verities, and by careful collocations reaches remote deductions in rationalism.

"The inferior animals enjoy many instinctive capacities for knowing in common with the human race, but man only possesses an interior self-capable of employing simple instinctive conceptions for abstruse reasoning."—*Ohio Cult.*

Colt's revolving pistols are in greater demand for the Mexican service—not to serve the Mexicans, though,—than is the ability to manufacture them. Same of bomb shells.

Oppressive Restraint.

It has become a decided and settled point in this city, that a man has no right to dispose of his property for benevolent purposes. He may squander his wealth by thousands in gambling and dissipation : but the moment he attempts to apply a few hundreds to benevolent objects he is arrested on a plea of *insanity,* and has the control of his property wrested from him. A case of this kind recently occurred in this city, in which it was admitted that the gentleman who was the subject of restraint, was sane in all other respects, and had reserved $50,000 for his family and connections, but was disposed to be generous to sailors and others by whose exertion and skill his wealth was accumulated. But his more avaricious would-be heirs, managed to have him legally robbed of his own rights and property by a process on the plea above mentioned.

Telegraphic Despatch.

The first message of Gov. Young, to the New York Legislature, was commenced reading in the House of Assembly at Albany, on Tuesday, 5th inst., at 18 minutes before 12, New York time, and was transmitted to New York by the N. Y , Albany and Buffalo Telegraph Co., and the entire document complete was placed in possession of the editors of this city, at 3 o'clock, P. M. The message contained 5000 words or 25,000 letters, and was written from two instruments in the Albany office by Messrs. Carter, Buel and Johnson, and read in the New York office by the Messrs. Woods, at the rate of 83 letters per minute, or two and a half hours for each instrument. Professor Morse's original estimate to Congress for the despatch with which communications could be sent by his telegraph, was thirty letters per minute. Here we see the number almost trebled in a long public document.

No Sir.

It is a common thing for parents in the country to teach their children civility while a stranger is present, though they evidently forget to do it at other times; and consequently in such cases, when a question is put to a child and he answers a plain yes or no, the parent instantly interlards the conversation with " yes what ?" or " no what ?" to which the child is expected to respond " yes sir," or " no sir," as the case may be. We remember an instance in which a little boy, having been once corrected in this respect by his mother, and instructed to say " yes sir, no sir, yes ma'am and no ma'm," took the first opportunity to improve the instruction, and to the first question, answered " yes sir, no sir, yes ma'am no ma'am," in quick succession. Of course some part of the answer was correct An instance is reported to have occurred recently, in which a boy being asked if his father was at home, answered " no," and to the ordinarily succeeding uuestion, " no what ?" readily answered, "*no, he ain't to home.*"

We Like That.

In the new constitution of Wisconsin, a provision has been introduced which prohibits the homestead of a family from being sold under execution for debt hereafter contracted ; nor can the property of the wife be taken for the debts of the husband. The judges are to be chosen by the people.

To New Subscribers.

Those subscribing to the Scientific American will be furnished, if desired, with all the back numbers of the present volume. Bound together at the end of the year, they will form a handsome and valuable work.

THE
SCIENTIFIC AMERICAN.

Persons wishing to subscribe for this paper, have only to enclose the amount in a letter directed (post paid) to

MUNN & COMPANY,

Publishers of the Scientific American, New York City

Terms.—$2 a year; ONE DOLLAR IN ADVANCE—the remainder in 6 months.

Postmasters are respectfully requested to receive subscriptions for this Paper, to whom a discount of 25 per cent will be allowed.

Any person sending us 4 subscribers for 6 months, shall receive a copy of the paper for the same length of time.

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Trip to the Coal Mines of Virginia.

After having taken dinner with the President of the Company, I dressed in a style to me perfectly original, and descended into the pits, a distance of over seven hundred feet.—No one has any conception of the apparently perilous attempt in going down these shafts, until he has experienced it. The distance and the view descending are truly frightful But the operation is an every day occurrence without accident, and you feel perfectly safe in following where others go, on whom you can rely. My imagination had very often partially prepared me for the state of things in coal mines, which I saw here; but a real and an imaginary state of things are totally different. In passing along the various channels and routes by the aid of lamps, you experience a natural restraint on your feelings, and a sincere awe of mind, that is not altogether pleasant. The gloominess of the place and the dread silence of the scene make one sometimes feel truly their helplessness. But there is no danger and no terror in the place. It is the feeling of the novice, uninitiated in such scenes, and soon wears away, to give room to more pleasant reflections. Along all the main channels, lamps are hung upon the walls to afford the necessary light to work and travel by. The cars drawn by mules are always rapidly passing and repassing to and from the place where the coal is got to the shafts.—Rails are laid down upon all the main routes, and the cars drawn by steam from above where it is necessary, and mules underneath, except down inclined planes, and there they choose to go themselves, without any body's help. The mules fatten while in the pits; they are the healthiest, plumpest, and best looking animals of the kind I ever saw. The operatives all look well, and seem to feel well, which is very good evidence that the place, instead of being unfavorable to health, is just the reverse. The pits are perhaps the best ventillated in the world. The different channels through which the air circulates before it passes out of the shafts, embrace a circumference of about eight miles. It moves at the rate of one hundred feet every ten seconds, which is a fraction over eight minutes to the mile. It is kept in a rarified state by a six foot furnace, which consumes fifty bushels of coal every twenty our hours. The pit is unusually dry for one so deep and extensive.

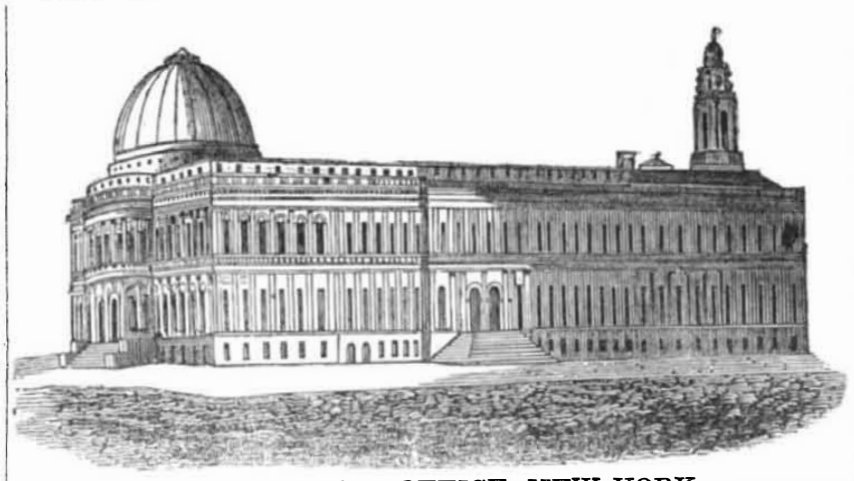
The greatest caution to prevent the pits from becoming foul and taking fire is exercised. One thing is reduced to a dead certainty—all persons here are of the same color—the Gumbos look just as white as the pale faces.—I found, when I had ascended the top and had a fair view of myself, that I was ring-streaked and speckled, and those varieties were made of many shades and many colors.

At many of the excavations made for coal, slate rock has been found which exhibits impressions of fish, fern, bark and knobs of wood in abundance. There is strong evidence to believe that the circumference in which this coal is located, was once a lake. This subject, however, I am not here disposed to discuss. They were blasting in various parts of the pits while I was down. The explosions sometimes were grand and terrific, and shook the earth with great power, while the reverberations echoed with deafening effect through every department of the mines. The laborers have each their proper duty to perform—some are employed to dig coal—some to blast rock, and others to attend upon the shafts, fill and manage the cars, &c. There are about two hundred in all—made up of Americans, English, Scotch, free blacks and slaves.

The amount of mines employed in and around Richmond, is from twelve to fifteen hundred thousand dollars. The value of the coal worked out per annum, is from 450,000 to $500,000. The sum the Mid-Lothian Co. expends per year for labor, groceries, agricultural products, &c &c., amounts to about $75,000, and the rest to $200,000, making in all $275,000.—*Nat, Mag.*

Pocket-Knife Making.

In the town of Sheffield, there are stated to be 3330 persons employed in the various process of the manufacture of pocket-knives. In this number are included 2400 setters-in; 430 pen-blade grinders; 150 pocket-blade grinders; 270 blade forgers; and 110 scale forgers.



PROPOSED POST OFFICE, NEW YORK.

The removal of the Post Office from the Park to the old church in Cedar street, has occasioned dissatisfaction in the minds of at least nine-tenths of the citizens; but to ameliorate this inconvenience, a branch was established, and for about two years continued at Chatham square. That having been recently discontinued, many begin to call loudly for another move, and it is now proposed to enlarge the present City Hall building, extending it back to Chambers street, for the purpose of accommodating, not only the Post Office, but a great variety of business offices, and halls for public institutions. We are not prepared to say what probability or prospect there may be of such improvements; but that the public convenience requires a great improvement in business facilities in the Park, instead of the uncouth and irregular buildings which now occupy that most eligible and central part of the city, is too evident to be long neglected by the proper authorities.

Peculiarities of the Chinese.

The stature of the Chinese is about the same on the average as that of the French; their complexion approaches a copper color much like the half breed American Indian; but some of the ladies have the most purely white or delicate complexion in the world, but which soon changes on exposure to the sun. Their eyes and hair are almost uniformly black, and their eyelids are not opened as wide as those of Europeans. The men shave the hair off their heads except a small tuft at the top, which is braided or plaited, and extends down their backs. There is no change of fashion, as with other nations, but the same fashion and costume continue for ages in all parts of the empire. They have hats without brims, and coats and shirts without collars, and trousers without buttons. Their stockings are long and tied below the knee The feet of the ladies are cramped by small shoes, which incommodes them in walking. Their houses are generally built of brick and of one story high, and without windows, and their furniture consists of a small low table, and a few simple seats, and a few images or household gods. Their principal and favorite diet is pork, but they occasionally eat beef, mutton, dogs, and even rats, and a variety of vegetables. One of the principal sacrifices to their gods is a whole roasted hog, which they are careful to eat themselves, after presenting it to their idol. They have no large tables, but as many small tables as their families and guests require, seating four at each table, with one of their idols under each. They use no knives or forks at table; but the food is cut into small pieces before it comes to the table. and then they use a couple of round straight sticks about the size of a quill and four or five inches long: these they hold in the right hand and their bowl in the left, and by a dexterous management of the sticks, they feed themselves from the bowl. These *chop.sticks* as they are called, are rather difficult to manouvre by strangers. They generally travel on foot, but some of the most genteel,—perhaps one in five hundred,—travel in a sedan chair, borne upon the shoulders of two servants: and one in ten thousand may be seen on horseback. Nearly every family has servants, either bought or hired, all of which are natives. Most of the bought servants or slaves, are females and concubines, but treated as menials. Their amusements are principally gambling with cards and dice, attending theatres, making processions, &c. But few of them have much time for any thing but making money, which is the one grand object with all classes. The obstacles to the introduction of Christianity among them appears to consist in the prevalent apathy, rather than decided opposition to the subject. Should the missionaries proceed with such energy as to produce an excitement of curiosity, and consequent attraction, the true gospel might be greatly extended in that country.

India Rubber.

Mr. Editor.

It has occurred to the writer that the above substance might be appropriately and usefully applied to cotton, woollen, and silk hose, so as to answer the purpose of a garter, in the same manner as it is applied and incorporated with a glove at the wrist. It would be a very convenient plan for those who wear long stockings, inasmuch as a person dressing in the dark, if he could find his stocking, would be sure to have the garter also. Would not some manufacturer undertake the improvement, if suggested through your valuable journal.

CAOUTCHOUC.

Stockings thus prepared would of course be *garterized* stockings. But why not have the whole stocking India-rubberized at once, or at least the bottom of it, thus rendering it waterproof?—ED.

Births, Marriages and Deaths.

In the report of the Secretary of State, of Massachusetts, the number of births returned is 15,912. The number of marriages is 5136. November is the favorite month for marrying—this doubles in number any other month. February has the least. The number of deaths reported is 9320. Average life of gentlemen, 66.20, clergymen 64.07, merchants 55.07, tailors 54.40, coopers 54.21, blacksmiths 51.09, masons 49.50, laborers 49.00, carpenters 49.94, seamen 48.76, tinmen 70.00, fishermen 45.15, sailmakers 42.33, shoemakers 42.00, painters 40.25, harnessmakers 38.00, printers 32.50.

Value of Smoke.

A striking instance of economical talent, says the British Quarterly Review, came to our knowledge in the district of Alston Moor, From the smelting earths of one "house" an arched tunnel conducts the smoke to an outlet at a distance from the works, in a waste spot, where no one can complain of it. The gathering matter or "fume," resulting from the passage of the smoke, is annually submitted to a process, by which, at that time, it yielded enough to pay for the construction of the chimney. A similar tunnel chimney, 3 miles in length, was erecting at Allandale.—Its fume will yield thousands of pounds sterling per annum. In this case smoke does not end in smoke.

The Profits of Thieves.

It is stated in the Police Gazette that twenty nine notorious thieves and burglars in the cities of New York, Boston and Philadelphia, have stolen property, since 1831, amounting to $1,800,000; the amount received by arrests, promises and convictions, $850,000, leaving a balance in favor of the thieves of $950,000.—This would make quite a profitable business, if it were not for the fact that one half of the party are now in the various State prisons, rendering service for the property they have so unjustly acquired.

RAILROAD INTELLIGENCE.

RAILROADS IN THE UNITED STATES.

The total length of railway now actually constructed and in operation in the United States, amounts to a little over 5000 miles, of which 500 consists in short lines connected with coal companies and private establishments; leaving 4300 miles of swift conveyance. In the construction of railroads and the electric telegraph, the United States are far in advance of Europe, in proportion to population.

The Great Central Railroad of Penn.

Of the 60,000 shares required to be taken in order to proceed with this important road from Philadelphia to the Ohio at Pittsburg, we are informed that 54,400 are already taken or engaged. The remaining 5,600 will in all probability, soon find purchasers, and this great central avenue will soon be opened.

NEW ENGLAND RAILROADS.

It is evident that a greatly increased business has been done on most of the eastern railroads within the past year, On the Fitchburg road, which, last season, paid a dividend of *ten per cent.*, the receipts for the week ending on the 14th inst. were $1,400 over the same week last year. The business upon the Western Railroad for the same week was near $6000 over the amount for the corresponding week of the previous year. Reports from other roads are equally favorable.

On the Vermont and Massachusetts Railroad a great portion of the grading and masonry has been completed between Fitchburg and Athol. The rails are now on their way from England.

The Mohawk and Hudson Railroad Company has given notice of intention to apply to the Legislature for authority to increase its capital stock $250,000, and to change its corporate name to "Albany and Schenectady Railroad Company."

ATLANTIC AND ST. LAWRENCE.

The Quebec Gazette says that the Atlantic and St. Lawrence Railroad is fast progressing and will when completed, be one of the most important and profitable roads in the country—280 miles, and Portland is in connection with the lakes, grasping the whole western trade. It will go ahead of Boston with rapid strides and will in a year or two, be the principal depot of the Atlantic steamers.

PITTSBURGH AND CLEVELAND RAILROAD.

Three hundred thousand dollars to the capital stock to this Railroad have been subscribed; and a portion of the track will be put under contract early in the spring.

NORTHERN RAILROAD OF NEW HAMPSHIRE.

The first section of this road has been recently opened, and its prospects appear much brighter than hitherto. The Northern road commences at the Concord Depot, and follows the Western bank of the Merrimac through Boscawen to Franklin, eighteen miles; it then pursues a northerly course through Andover, Orange, Canaan, Enfield, and Lebanon, to the mouth of the White River, just below Lyman's Bridge. There it is to meet the Central Road, which is to run up the White River, through the centre of Vermont, to Burlington; also, the Passumpsic road, which is to run from the mouth of the White River up the Vermont side of the Connecticut, to the mouth of the Possumpsic, and thence up that river to Stanstead, Canada. It will hence appear that this Northern Railroad is a very important link in an extended chain; and the opening of the first eighteen miles of the road was naturally a joyful occasion.

MICHIGAN CENTRAL RAILROAD.

The Boston Company that bought the Central Railroad, Michigan, have reduced the price of freight 15 per cent. The receipts for the year to

Dec. I, 1846, were : :	$329,663 75
Dec. 1, 1845, were : :	202,746 57
Increase in 1846 : : :	$126,917 18

The new company paid $2,000,000 in State securities, at par, which they bought up at from 60 to 70 per cent. The actual cost to the company is only $1,400,000, which is an interest of $98,000. At this rate it will pay not far from 18 per cent on the actual cost.

The French newspapers state that almost all the fish have this year quitted the coast of France.

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Large Business.

Are the penny-dealing people of Boston aware of our scale of business down here in New York? They talk about measuring off a few miles of *railroad* for a customer; but here we retail steamboats in "lots to suit purchasers," as a common thing. On Monday Mr. Bleecker, at the Exchange, sold 7 3-4 steamboats off-hand, at the following prices:—

Steamboat Isaac Newton Do Knickerbocker, Three-qrs. of the Hendrick Hudson,	330,900
Steamboat South America,	50,000
Do North America,	35,000
Do Columbia,	50,000
Do Rochester,	35,000

Ranlet's Architect.

The January number of this splendid and invaluable work for carpenters and builders, (and which should have been noticed in our last number,) is unrivalled by anything in that line. This number contains ten splendid lithographic prints, on large pages, 10 by 14 inches, and showing the elevation, perspective views, plans, and frames of elegant and fashionable cottages, with illustrations of building materials, &c. Published by W. H. Graham, Tribune buildings, New York—price only 50 cents.

Phrenology.

We would particularly call the attention of our readers to the advertisement, in another column, of Messrs. Fowler & Wells's phrenological establishment. Since these gentlemen, by assiduous attention to the subject, and unwearied efforts, have reduced this interesting science to such plain rules as to put within the reach of all, the means of discovering the natural propensities of themselves and others, it must be unreasonable for parents, teachers, and others most interested, to neglect to avail themoelves of the means of discovering and counteracting the progress of viscious, and cultivate the commendable propensities of the rising generation.

Carpenter's Tools.

No better bargains in this line can be found in this city than at the tool store of C. Wray, 36 1-2 Chatham street. In addition to the ordinary variety of hardware, Mr. Wray has for sale several newly invented articles, among which is the *plumb and level* indicator, which has become a favorite implement with mechanics. Give him a call.

The New City of Merrimack.

This embryo city in Essex county, Mass. which is now only one year from its commencement has already two newspapers to enlighten its people. The Newburyport Courier estimates its present population at 3000—with houses now commenced, and nearly finished sufficient for 2000 more; and anticipates a population of 6000 on the 1st of April, and 8000 at the close of the season. Such a growth to a town will be without a parallel.

Late Fires.

The steamer Penobscot, of the Bangor line, was set on fire and nearly destroyed while undergoing repairs at South Boston.—A large brick dwelling, north of the Patent Office, Washington, occupied by Baron Gerolt, Prussian Minister, injured, but not consumed.—A large grist-mill at Renepack creek, a few miles from Philadelphia, valued, with its contents, at $13,000, consumed.—At Northumpton, Mass., a store and large stock of goods, owned by Mr. E. Powers. Several other buildings were much injured.—At Windham, near Trenton, N. J., the brass foundry of T. Birne & Co., together with a fulling mill adjoining.—At Northbridge, Mass., a large stone mill, belonging to Sylvanus Holbrook, and containing a large quantity of cotton and finished goods.

Our weekly list of new patents, received too late for this number, will appear in our next.

Plumb and Level Indicators.

A LARGE LOT of these indispensable articles (for the Carpenter and Mason) is now ready and for sale wholesale and retail, at this office.
Price $1 single.

Steele & St. John,

FASHIONABLE MERCHANT TAILORS.
No. 27 John Street.
d19 3m NEW YORK.

ADVERTISEMENTS.

☞ This paper circulates in every State in the Union, and is seen principally by mechanics and manufacturers. Hence it may be considered the best medium of advertising, for those who import or manufacture machinery, mechanics tools, or such wares and materials as are generally used by those classes. The few advertisements in this paper are regarded with much more attention than those in closely printed dailies.

Advertisements are inserted in this paper at the following rates:

One square, of eight lines one insertion,	$ 0 50
" " " " two do.,	75
" " " " three do.,	1 00
" " " " one month,	1 25
" " " " three do.,	3 75
" " " " six do.,	7 50
" " " " twelve do.,	15 00

TERMS:—CASH IN ADVANCE.

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" "	Wm. Taylor & Co.
Boston,	Messrs. Hotchkiss & Co.
Philadelphia,	Messrs. Colon & Adriance.
Boston,	Jordon & Wiley.

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Baltimore, Md.,	S. Sands.
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Persons residing in the city or Brooklyn, can have the paper left at their residences regularly, by sending their address to the office, 128 Fulton st., 2d floor.

Branwhite's Patent Color Discriminator.

☞ This ingenious invention consists of a neat box in which are arranged in a scientific manner, all the most brilliant colors, THIRTY FIVE IN NUMBER, represented by as many convex discs of the FINEST SILK. Each disc bears a number referring to an explanatory scale. The attention of storekeepers, milliners, and indeed all who have occasion to vend or purchase colored articles of any kind, is respectfully invited to this new and valuable discovery. More trouble can be saved by its use in ONE DAY than four times the amount of its cost. For sale, wholesale and retail, at the office of the Scientific American, 128 Fulton st., 3 doors from the Sun Office.

They may be sent by Express, to any part of the United States. oct31 tf

ELECTRICITY.

SMITH'S CELEBRATED TORPEDO, OR VIBRATING ELECTRO MAGNETIC MACHINE—This instrument differs from those in ordinary use, by having a third connection with the battery, rendering them much more powerful and beneficial. As a curious Electrical Machine, they should be in the possession of every one, while their wonderful efficacy as a medical agent, renders them invaluable. They are used with extraordinary success, for the following maladies.

Rheumatism—Palsy, curvature of the Spine, Chronic Diseases, Tic-doloureaux, Paralysis Tubercula of the brain, heart, liver, spleen, kidneys, sick-headache.

Tgothache—St Vitus dance, Epilepsy, Fevers, diseates of the eye, nose, antrum, throat, muscles, cholera, all diseses of the skin, face, &c.

Deafness—Loss of voice, Bronchitis, Hooping cough.

These machines are perfectly simple and conveniently managed. The whole apparatus is contained in a little box 8 inches long, by 4 wide and deep. They may be easily sent to any part of the United States. To be had at the office of the Scientific Americcan, 128 Fulton st, 2nd floor, (Sun building) where they may be seen IN OPERATION, at all times of the day and evening. 2

COPPER SMITH!—The subscriber takes this method of informing the public that he is manufacturing Copper Work of every description. Particular attention is given to making and repairing LOCOMOTIVE tubes. Those at a distance, can have any kind of work made to drawings, and may ascertain costs, &c., by addressing L. R. BAILEY, cor. of West and Franklin sts., N. Y.
N. B.—Work shipped to any part of the country.
45to2dv18*

Lap-welded Wrought Iron Tubes
FOR TUBULAR BOILERS,
From 1 1-4 to 6 inches diameter, and any length, not exceeding 17 feet.

THESE Tubes are of the same quality and manufacture as those extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.
THOMAS PROSSER, Patentee,
d26 28 Platt street, New York.

BLACK LEAD POTS.—The subscriber offers for sale in lots to suit purchasers, a superior article of BLACK LEAD POTS, that can be used without annealing. The price is low, and founders are requested to make a trial.
SAMUEL C. HILLS,
j2 3m* Patent Agent, 12 Platt street.

AMERICAN PHRENOLOGICAL JOURNAL.

FOR 1847. VOLUME IX.
O. S. FOWLER, EDITOR.

☞ TO IMPROVE MAN PHYSICALLY, Morally and Intellectually, will be the object of this Journal.

It will embrace all the principles of our entire constitution, the conditions of happiness and the causes of misery.

PHRENOLOGY
will be set forth in the most practical and instructive manner, amply illustrated by engravings, showing the exact locations of the organs, with full directions for learners who wish to acquire a thorough knowledge of the science.

PHYSIOLOGY
will be duly considered, and much valuable advice given with reference to health, diet, exercise, etc. etc. This department will also be illustrated by anatomical engravings, which will enable the reader to understand the human architecture.

VITAL MAGNETISM,
applied to the relief of pain, or surgical operations, etc., together with all that is new or important, will be presented in this Journal.

WOMAN
is by nature as perfect as a God could make her, yet her education and habits are rapidly degenerating her; to arrest which and to develope her natural capabilities, sphere and duties, will be a leading feature of this work.

SELF-IMPROVEMENT.
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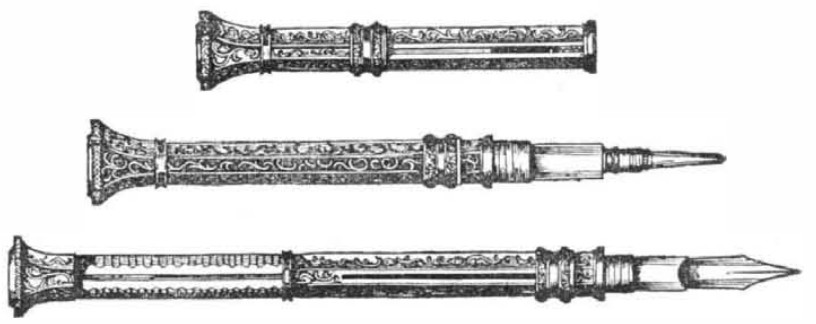

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CURIOUS ARTS

On the Electro-Chemical Protection of Metals.

The chief subject of Prof. Brande's communication was, the description and philosophical explanation of the protection given to iron by coating it with zinc. The researches of Sir Humphrey Davy in the years 1824-25 were noticed, and the effects of sea-water on copper, simply immersed in that liquid, were contrasted with the protection afforded to it by a cemented plate of zinc or iron. It was then demonstrated that, whenever two metals, possessing unequal affinity for oxygen, are brought into metallic contact in any medium containing oxygen, an electrical current is produced; that this current passes from the more oxidizable to the less oxidizable metal; and that the latter is protected by the increased corrosion of the former. Thus, the interior of a copper stew-pan will not be affected by acids so long as any of its tinning remains: while, on the contrary, if what is called tin plate (*i. e.* iron plate coated with tin) be scratched, however slightly, the iron is quickly corroded the cuticle of tin being protected at the expense of the metal which it was designed to preserve. Now zinc on iron is what tin is on copper,—a perfect protection, so long as any remains on its surface. It was then shown that. generally, the direction of an electric current depended, not only on the metals, but on the nature of the medium through which the current passed (*e. g.* or whether an acid, or a solution of sulphur, or of any other electro-negative substance was used.) Instances of metallic deposition by chemical affinity, as that of lead on zinc, of copper on iron, &c., were exhibited; and it was shown that, whenever the electric current was superinduced by the employment of a conductor of electricity, whether metallic or not, the metal passed to the conducting (or the electro-negative) surface (the cathode of Faraday.) The process of zincing iron was then exhibited. The metal is carefully scoured, steeped in dilute acid, washed in water and thoroughly dried, and then plunged into melted zinc. As it is necessary that there should be perfect metallic contact between the metals, sal-ammoniac is sprinkled over the melted zinc before the immersion of the iron. This covers the liquid metal with a film of chloride of zinc, which precludes intervening oxide, and thus insures perfect adhesion between the coating and coated metals.—*Eng. Sci. Jour.*

The proper time for Cutting Timber.

Nine tenths of the community think winter the proper time for this purpose, but the reason assigned that the "sap is then in the roots," shows its futility, as it is evident to the most superficial observer, that there is nearly the same quantity of sap in the tree at all seasons. It is less active in the winter, and like all other moisture, is congealed during the coldest weather; yet when not actually frozen circulation is never entirely stopped in the living tree. Reason or philosophy would seem to indicate that the period of the maturity of the leaf, or from the last of June to the first of November; is the season for cutting timber in its perfection. Certain it is, that we have numerous examples of timber cut within that period, which has exhibited a durability twice or three times as great as that cut in winter, when placed under precisely similar circumstances. After it is felled, it should at once be peeled, drawn from the woods, and elevated from the ground to facilitate drying, and if it is intended to be used under cover, the sooner it is put there the better. Wood designed for fuel will spend much better when cut as above mentioned and immediately housed; but as this is generally inconvenient from the labor of the farm being then required for the harvesting of the crops, it may be economical to cut it when there is most leisure.—*Allen's Amer. Agriculture*

Very Rapid.

A telegraph communication from Albany to Pittsburg, via New York and Philadelphia, was made and an answer received, including all the detentions, in two hours. The distance is 990 miles.

Construction of Chimneys.

The principle upon which the draught is regulated in chimneys is, that the specific gravity of warm air and smoke, is less than that of cold air. The air which is used in combustion is rarified, and being lighter than cold air, the cold air rushes in below and drives it upward. Hence, if the chimney is so constructed that this warm air and smoke has room to get out of the way of the cold air which is driving it upward, no smoke will be driven out into the room in which a fire-place is built.

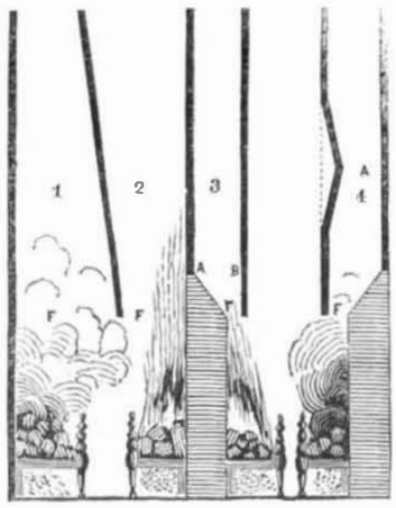

Fig 1. *Fig* 2. *Fig* 3. *Fig* 4.

Figures I and 2 will illustrate this subject: chimneys are frequently built in log houses on the plan of figure 1. The fire being built upon the hearth, it has abundance of room to enter the chimney at the flue F,—but the hole at the top being small, compared with the flue F, there is no room for the warm air and smoke to get out of the way of the cold air, and it will be continually puffing out into the room.

On the other hand, if the plan be reversed as in figure 2, and the chimney increases in size upward, from the flue to the top, the draught will be excessive, and the greater part of the heat will go up into the chimney, as in an air furnace.

A medium between these two plans, at fig. 3, will create a regular and not excessive draught.

In fig 3, the flue is (as it should be,) the smallest place in the chimney—In ascending from the flue upwards, in the course of about one foot the chimney should widen, or rather deepen off to about two and a half times the width of the flue. If we suppose the flue to be four inches, in ascending one foot, the distance from the inside of the front at B, to inside of the back at A, should be 16 inches—and then if we suppose the width of the fire place to be three feet, the cabibre of the chimney on the inside at A. B, will be 36 square inches—And the calibre should not be less at any point above, than at A. B. There will be room for all the smoke which enters the flue to pass upward without impediment.

The chimney may be brought into a different shape, so as to make it appear well at the top—but still the number of square inches in the calibre should not be lessened. Thus in the case of the chimney, supposed to be 360 square inches at A. B. in fig 3, it may be sixteen inches by twenty-four in the inside at the top, or 384 square inches—a not unusal size of chimney tops.

On the other hand, if there be any curvatures or projections which impede the smoke in its passage upward, as in fig. 4 at A, such circumstances will have a tendency to prevent the proper draught of smoke, especially in bad weather. H. J. Canfield.

Canfield, Ohio.

Another Answer about Chimnies.

1st. The throat of the chimney (as at *f* fig 3 and 4,) srould be narrow—say fram 3 to 5 inches wide.

2d. The back of the fire place should be brought forward nearly into a line with the inside of the front of the chimney: and be built perpendicularly, or inclining forward a little, till it reaches the throat of the flue.

3d. After being carried up within a proper distance of the mantletree to afford the requisite width of throat, the back should recede almost at a right angle, to the back line of the chimney, which should leave the flue four times as wide as the throat.

4th. The flue or chimney should be carried up perpendicularly, and have the same size throughout.

Note.—A chimney built according to these rules, may sometime have too much draft;—but that can be easily regulated by putting a damper of sheet iron inside of the throat

Seth M. Root.

Pittsfield, Loraine Co. O.

SCIENTIFIC MEMORANDA.

[Communicated for the Scientific American.]

Upon the purity of the atmosphere the health of the inmates of a house depends.—There is consequently a great deal of science in the heating of rooms. Rooms heated with anthracite coal, and rooms heated with close stoves in which wood is burnt, have very dry atmospheres. The use of water in such rooms is very congenial to health, but the water should not be placed in an iron or tin vessel upon the stove, for the reason that it will undergo the degree of heat which will make its vapors offensive and injurious to breathe. If water is used upon a stove, (and it always should be in parlor or kichen) an iron pan should be made use of, and this filled with dry sand, and in the sand set an earthen bowl, washed and kept as clean as if it were used for a drinking vessel. Where hard coal is used in a grate, a glass globe should be suspended in the room filled with clean pure water, and as the heated air rises to the top of the room it will speedily evaporate the water and moisten the dry and heated air. If the atmosphere of salt water vapor is preferred, a little salt can be added to the water, or if an aromatic atmosphere, they can add Cologne water or some other perfume. Ladies try this method of perfuming the air of your rooms.

A signal to be used on railroads in foggy weather has recently been invented in England. It consists of detonating powder made up in a circular form, firmly secured by tin plates.—Being about three inches in diameter, it is placed on the rail two strips of lead being employed to keep it firm in its position. In night or day travelling, when the weather is foggy, and the ordinary signals are not to be discerned, this fog signal is placed on the rail. The moment the fore wheel of the engine presses it, an explosion takes place as loud as a cannon, and no sooner is the report heard by the engineer, than he applies the brakes, and the train is stopped.

When we wish to drive water through a passage where it will not flow without aid, we commonly use a forcing pump. That machine operates by pressing the water so hard as to drive in the direction required. This is commonly done by pushing up the bottom of the pipe or chamber which contains the fluid, by means of a piston sliding into it. Now the heart, though small as it is, contains two forcing pumps, much more perfect than any of human fabrication, and perfectly adequate to the labor assigned to it. All that part of the common forcing pump, the piston rod, which requires considerable space for its motion, is saved by an expedient to which man cannot resort, the sides of the chamber which holds the blood *are forced in* by a strong motion, which drives out the vital fluid with great force.

In order to avoid preventing the navigation of the Ouse at Selby by the line of telegraph communication, now erecting on the railway from Hull to other parts of England, it will cross the river at such an elevation that the largest vessels trading there may pass below the wires without striking their masts. This is to be effected by a large mast 75 feet in length, surmounted by a topmast 68 feet long, secured to piles in the river, and by a second mast 80 feet long, with a 56 feet topmast, fixed in masonry on the land. On the top of these, 12 wires will pass, and the whole protected by suitable lightning conductors, will be stayed with patent wire rigging. The masts and topmasts are fitted with cross trees and caps similar to those of an immense schooner.

The velocity of the wind is from an imperceptible movement to 100 miles in an hour. When it moves at 1 mile per hour, it is said to be hardly perceptible; at 10 or 15 miles, pleasant and brisk; at 20 miles, bracing; at 20 to 25 miles, very brisk; at 30 to 35 miles, high; at 35 to 45 very high! at 50 miles, storm or tempest; at 80 miles, hurricane; at 100 miles, hurricane, tearing up trees, and throwing down houses, &c. An apparatus, called the *anemometer*, to measure not only the force, but to indicate the direction of the wind at every moment of the day. From an exterior vane, a connection is established to a pointed index in the form of a pencil, which, according as the vane moves, travels on a sheet of paper spread on a table in a room beneath, and marks the paper in certain waving lines as it proceeds. The pencil being influenced by the movements of a clock, and the paper being squared into divisions for every hour of the day, a most effectual record might be kept

Machine for measuring Velocity.

Mr. M. Ricardo laid before the late meeting of the British Association, a model of his very beautiful machine for registering the velocity of railway trains. The object of it is to furnish the railway companies with a record of the work done By this means they would be often enabled, in cases of any accident, to assign correctly the nature and causes of such accident, and so prevent its recurrence. The machine is closed up under the seat of a railway carriage and when placed there it marks on a strip of paper the speed of the train, the time of its passing every half mile, and the length of every stoppage at a station. It is, in short, a mechanical inspector of trains.—He described the apparatus and stated that it had gone some thousand miles without accident.

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